Resistivity doc. 9/9/82

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF RESEARCH AND DEVELOPMENT

FEB. 1 2 1982

Our Reference: AMI

To Whom It May Concern:

A contract to assess the utility of the complex resistivity method in detecting groundwater contamination has been negotiated with the Environmental Monitoring Systems Laboratory. A number of candidate hazardous waste and injection well sites are needed to assess whether this geophysical monitoring method will help define the magnitude and extent of underground contamination at those sites. The Laboratory desires to begin field tests of the method this summer at a hazardous waste site. Your assistance is sought in obtaining a site where this promising method can be researched.

A list of factors which must be considered in the selection of that site follows. If you know of sites which meet the listed criteria, I would appreciate you completing the attached form for each proposed site.

1) Legal: The site should be free of legal entanglements with no litigation anticipated in the foreseeable future. The use of complex resistivity can be characterized as a research effort. It is not now considered to be a proven method of providing evidence of chemical contamination.

2) Accessibility: The site should be open to EPA and contractor personnel.

3) Cultural Interferences: The area should be free of electrical powerlines and extensive amounts of metal. Metal fencing, should be located some distance away from suspected areas of contamination.

4) Geological Characteristics: The underground structure should be uniform in composition. The water table should not rise to the surface in the area to be surveyed.

5) Contaminant Characteristics: The suspected contaminants should be electrically conductive, but this is not absolutely essential.

6) Existing Data: Previous studies of the geology and contamination are highly desirable. In situ measurements at selected points will serve as a benchmark for the complex resistivity data. The in situ data should be current. This data needs to be kept confidential until after the contractor has completed the complex resistivity survey and presents a report to EPA.

The detailed information requested in the form is vital to the selection of the first test site. I ask that you return the forms to me as soon as possible.

545 - 2367

If I can be of any further assistance, please call me at FTS 545-2367.

Sincerely yours,

J. Jeffrey van Ee

Jeff van Ee
Integrated Monitoring Systems Branch
Advanced Monitoring Systems Division

Enclosure

GEOPHYSICAL MONITORING SITE SURVEY FORM

Background Information

Site Name: _____

Locaion: Latitude: _____ Longitude: _____

Nearest Municipality: _____ State: _____

Is this: a Superfund site? _____

a landfill site? _____

a chemical disposal site? _____

a research site? _____

Name of organization and individual to contact for further information:

_____ Telephone: _____

Who is responsible for access to the site? _____

Telephone: _____

Do photographs exist of the Site? _____

If photographs of the site cannot be provided at this time, where may photographs be obtained? Name: _____

Address: _____

What type of photographs? Slides: _____

Prints: _____

Aerial Photos: _____

Other: _____

If photographs can be attached, is it necessary to return them? _____

To whom? _____

What activities are presently occurring at the sites?

_____

_____

Will the site be involved in clean-up efforts in the foreseeable future? ____

When? _____

Contaminant Characteristics

What contaminants are known to exist at the site? What are the concentrations?

_____

_____

What contaminants are believed to exist at the site? What are the concentrations?

_____

_____

Where (horizontally) are the contaminants known to exist? _____
(Attach a map, sketch, or report on the site if possible)

If there is information which identifies where contamination exists, where can the materials be obtained? _____

Are the contaminants present on the surface of the site? _____

Do the contaminants present a safety hazard to the person who would walk on the site without protective clothing? _____

Site Characteristics

Surface Characteristics

Is there anything on the surface of the site which would present difficulties to geophysical monitoring? _____

Drums? _____

Uneven terrain? _____

Pavement? _____

Ditches or trenches? _____

Structures? _____

Metal debris or metal fences? _____

Any fences which subdivide the site? _____

Metal fences on the perimeter of the site? _____

Powerlines? _____

Nearby radio transmitters? _____

Dense forest? _____

Seep (springs), ponds, bogs? _____

(Attach maps, reports, or sketches to indicate where significant surface features are located)

Subsurface Characteristics

Are the geological characteristics of the site well defined and understood?

(Attach maps, sketches, and reports if available) _____

What is the depth to the water table? _____

Are the hydrogeological characteristics known? _____
(Attach maps, sketches, and reports if available)

Are nonmetallic buried objects or voids known to exist at the site? _____

What are they? _____

Where are they? (Attach maps, sketches, or reports if readily available;

otherwise, indicate where they may be obtained) _____

Are buried metal objects (such as drums, wire, pipelines) known to exist at

the site? _____

What are they? _____

Where are they? _____
(Attach maps, sketches, or reports if readily available; otherwise, indicate where they can be obtained)

Are metal cased monitoring wells located on site? If so, where? (Attach maps, sketches, or reports if readily available; otherwise, indicate where they may

be obtained) _____

What is the quality of the uncontaminated groundwater (with emphasis given to

TDS and conductivity)? _____

Past and Present Studies (Conventional and Geophysical)

When was the site studied?

Dates	Investigator	Type of Study (Geophysical, monitoring wells)	Where can the results be found?

Where are the monitoring wells located and at what depth? (Attach maps, sketches, or reports for reference) _____

What materials were used for the wells? _____

What, if any, geophysical methods were used at the site? _____

Are groundwater samples being collected at the site for analysis? _____

If yes, can samples be made available for testing by a geophysical contractor (contracted to EMSL-Las Vegas)? _____

_____

Can core samples be made available for testing by the geophysical contractor?

_____

Which documents do you want returned? _____

To whom? _____

Is there other information you wish to bring to our attention? _____

Please return this form and all supporting documents to:

Name:

Address: